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Date: February 4, 2015

To: E.J. Johnson
Construction Inspector
950 West Mall Square, Room 110
Alameda, CA 94501-7575

Subject: Tree Removal Recommendation

Location: 1901 Park Street

Species: Indian Laurel Fig *(Ficus microcarpa)*

Assignment: Arborist was requested to inspect tree roots and provide recommendations.

Summary

Pavement improvements require large roots, including one 10" in diameter, to be severed five feet from the tree base. The tree is very large and the amount of root pruning necessary to return the sidewalk to grade will likely create a risk situation that is too high to tolerate. The tree is the middle tree and therefore its removal will not significantly affect the street scape. The tree is recommended for removal and replacement.

Tree and Site Description

The Indian Laurel Fig is the middle smaller tree in a line of three. DBH was measured at 25.5" and height is estimated to be 45 feet. Health is good; Structure is poor, displaying six main stems, many with included bark attachments. The tree has a slight lean to the northwest. Large surface roots were measured to have diameters of 10", 7", 7", 6", 3", and 3". A driveway and garage entrance is one foot away from the 10" root. The 10" root appears to drop down under the building foundation. The tree lacks structural roots on the opposite side (street side) due to inhospitable growing conditions.

Discussion

Return sidewalk to grade – It is not possible to return sidewalk to grade without cutting significant roots (including a 10" root and two 7" roots) within the Primary Root Plate[1]. Roots cannot be shaved down as

[1] **Primary Root Plate** –A radial distance from the base of the tree equal to three times the tree diameter (*DBH*). This represents the critical area where root cutting will compromise the structural stability of the tree.

they are located directly on the surface. Ramping over the roots is not an option with the garage entrance so close.

Root cutting –Park Avenue is a main thoroughfare between Alameda and Oakland. If roots are severed as necessary to return sidewalk to grade, it would likely create a situation with a "moderate to high" risk association[2]. Because the tree appears to lack normal compression roots on the street side, our professional opinion is that the associated tree risk level would be closer to the category of "high".

Two other *Ficus* – Only a minimal amount of root pruning is necessary to accommodate the new sidewalk adjacent to the two other figs, whose DBHs measured at 27" and 33". Clean crushed rock (instead of AB) will be used under pavement adjacent to these two trees to mitigate future root related hardscape uplift. This under pavement treatment is also recommended for the pavement area adjacent to the location of the replacement tree.

Street tree transition – Removal of the middle *Ficus microcarpa* will assist in the eventual transition of all the figs to a more appropriate species for the street. It is recommended that under pavement treatments are implemented every time pavement repairs are undertaken, so that when old, problematic trees are removed, the roots of replacement specimens will be less likely to cause pavement uplift.

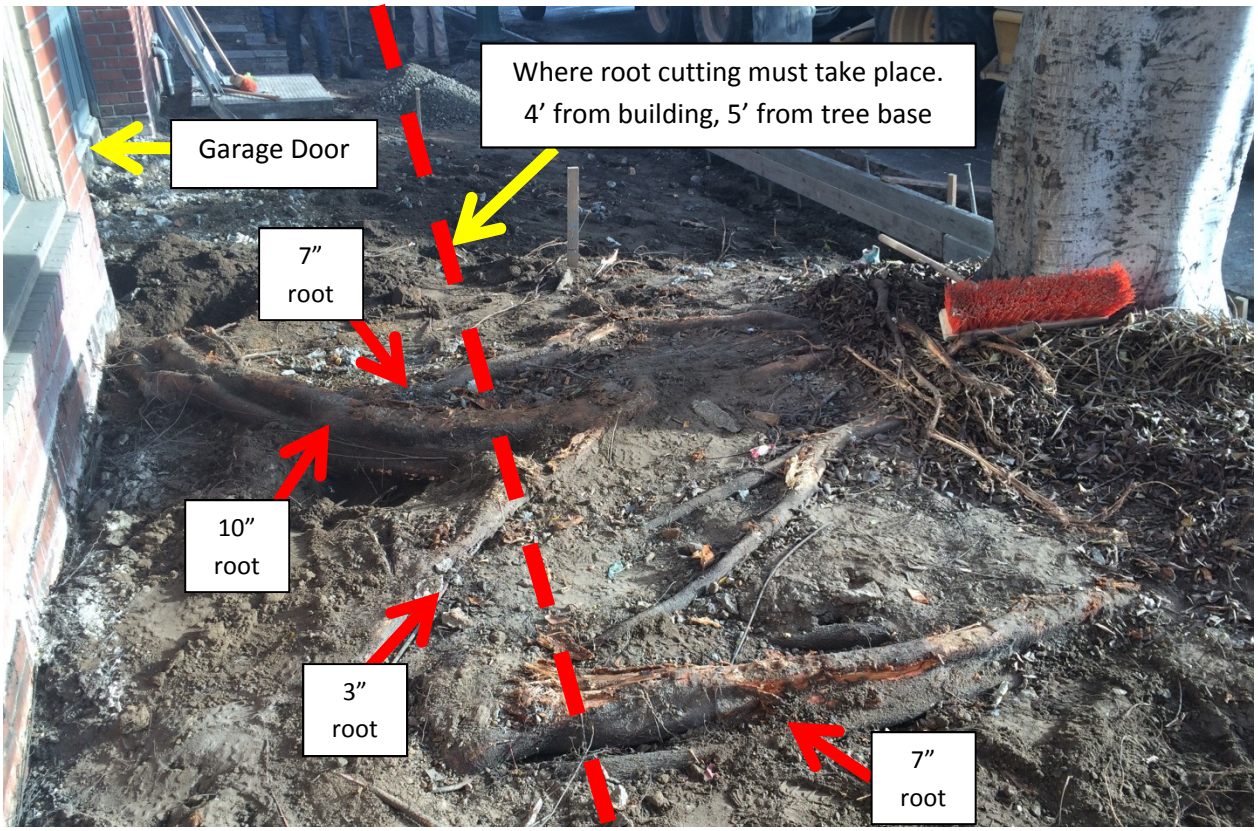
Recommendation

Remove and Replace Tree – Any attempt to sever the roots and retain the tree would likely represent a risk too high to tolerate. Replacement species should be smaller in stature than the Indian Laurel Fig.

End Report

[2] "High risk situations are those for which consequences are *severe* and likelihood is *likely*. Moderate risk situations are those for which likelihood is *somewhat likely* and consequences are *severe*." (Dunster, Julian A. *Tree Risk Assessment Manual (TRAQ).* U.S.A.: International Society of Arboriculture, 2013. Print.)

Photo Supplement



Photos 1 and 2 – *Photo above shows the side view of the sidewalk area and where roots are located. In photo to the left, red line indicates where root cutting would have to take place. The large root pictured measured 10” and 7” in diameter.*

End Photo Supplement